



The Effects of Dilantin on the Oral Cavity Over Time

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ABSTRACT

Objective: The objective of this case presentation is to discuss the long-term effects of Dilantin in causing gingival hyperplasia as seen in the patient. **Assessment:** A 54 year old African American male patient presented to the Dental Hygiene Clinic with a chief complaint of “I need to get my teeth cleaned for my three month appointment.” The patient was referred to our clinic from the Graduate Periodontal clinic at Indiana University School of Dentistry for his three month periodontal maintenance appointment. Medical history is completely negative with the exception of he suffers from epilepsy and has been taking Dilantin for over forty years now. Clinical examination revealed advanced localized periodontal disease in the lower right quadrant with probing depths ranging from 1-10mm and clinical attachment levels ranging from 1-8mm. Patient also presented with generalized healthy gingiva as evidenced by coral, firm, and stippled tissue. The intraoral radiographs reveal generalized mild bone loss as evidenced by 3-4mm from crest of bone to CEJ. The patient’s oral hygiene habits include: brushing twice a day, flossing once a day, and using an antimicrobial mouth rinse once a day. **DH Care Plan Included:** periodontal maintenance, topical fluoride varnish, review of oral hygiene, and review of the use of a water irrigator. **Evaluation:** The patient was referred to the Graduate Periodontal department for further evaluation due to the increase of gingival overgrowth on #31 distal and the presence of exudate. The dentist who performed the last dental exam in the Dental Hygiene Clinic feels the patient will need another gingivectomy.

Conclusions: From the review of the evidence-based literature, the Dilantin is the cause of the gingival hyperplasia that this specific patient has been experiencing over the years and his need for continuous periodontal surgery.

INTRAORAL PHOTOGRAPHS

BEFORE



AFTER



* Photos are an example of a drug-induced gingival hyperplasia case before and after a gingivectomy. The photos are not of our case study patient. Photo credit given to Dr. Awra M ElMaraghi.

SIGNIFICANCE OF THE CASE

This patient presents with a 40 year history epilepsy and taking Dilantin anti-seizure medication. The patient currently suffers from approximately two seizures a year, with his last episode resulting in hospitalization for broken ribs. According to our evidence-based research, 50% of patients on long-term therapy are prone to develop gingival overgrowth. This is due to phenytoin and its metabolites having a direct action on the high-activity fibroblast population present in the gingiva, which leads to an increase in collagen production. A positive relationship between the dose of phenytoin and severity of the overgrowth has been shown. This patient throughout his dental history at Indiana University School of Dentistry has exhibited gingival overgrowth and needed periodontal surgery to correct. The patient’s last gingivectomy was in 2012. He will possibly be receiving another in 2015. Due to medication, this patient will have a continued need for periodontal surgery to correct the gingival overgrowth that is a side-effect of his Dilantin medication.

CONCLUSION

From the review of the evidence-based literature, the Dilantin is the cause of the gingival hyperplasia that this specific patient has been experiencing over the years and his need for continuous periodontal surgery. The patient will have a follow-up appointment with the periodontal department for further evaluation in regards to the lower right quadrant.

REFERENCES

- 1) BMJ Case Reports. Phenytoin-induced gingival enlargement.
<http://casereports.bmj.com/content/2014/bcr-2014-204670.long>.
- 1) Goran Dahllof. *Phenytoin-Induced Gingival Overgrowth in Epileptic Children*. Stockholm, Sweden. Department of Pedodontics, School of Dentistry and the Department of Pathology II, Huddinge University Hospital, Karolinska InstituteAmne: 1986

BACKGROUND

- 54 year old male
- Epilepsy
- Regular dental home
- History of gigivectomy
- History of osseous surgery

Medications

- Dilantin
- Trileptol

ASSESSMENT

- Generalized healthy gingiva, coral, firm, and stippled tissue.
- Generalized chronic periodontitis, 4-8mm clinical attachment loss.
- Radiographically, generalized mild bone loss, 3-4mm from crestal bone to cemento-enamel junction and localized moderate horizontal bone loss on teeth number 2, 3, 4.
- Plaque score was 18%
- Exudate was present on #31 distal with a pocket depth reading of 10, which is an increase of 2 mm from last periodontal maintenance appointment.
- Referred to graduate periodontal clinic for further evaluation.

DENTAL HYGIENE CARE PLAN

- Periodontal maintenance
- Oral hygiene instruction with oral irrigator
- Dental exam,
- Fluoride varnish was applied.
- Appointment in Periodontal department regarding exudate #31